

Applicant notes that, in the §103(a) rejections of claims 1-6, 8-17 and 19-27 set out in the outstanding Office Action as compared with the §103(a) rejections of claims 1-6, 8-17 and 19-23 set out in the previous Office Action dated January 2, 2001, the Examiner appears to have merely replaced the Woods patent (U.S. Patent No. 5,724,571), in a combination with Morgenstern, with the Lawrence patent. Likewise, in the §103(a) rejections of claims 7 and 18 set out in the outstanding Office Action as compared with the §103(a) rejections of claims 7 and 18 set out in the previous Office Action, the Examiner appears to have merely replaced the Woods patent, in a combination with Morgenstern and Anwar, with the Lawrence patent. However, the same remarks that were presented in Applicant's first response dated May 2, 2001 (incorporated by reference herein) apply as well to the new combinations which include Lawrence, as will be explained below.

Thus, Applicant respectfully asserts that the new combination of Morgenstern and Lawrence, as set forth in the outstanding Office Action, also fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143. While the general requirements of M.P.E.P. §2143 were set out in Applicant's previous response, they are repeated herein for the sake of ease of reference.

As set forth therein, M.P.E.P. §2143 states that three requirements must be met to establish a prima facie case of obviousness. First, there must be some suggestion or motivation to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited combination must teach or suggest all the claim limitations. While it is sufficient to show that a prima facie case of obviousness has not been established by showing that one of the requirements has not been met, Applicant respectfully believes that none of the requirements have been met.

As first set out in Applicant's previous response, the present invention, for example as recited in independent claim 1, defines a method of automating navigation between data with dissimilar structures including a source dataset containing one or more data elements and at least one target dataset containing one or more data elements. The method comprises the steps of: (i) determining at least one collection of data elements from the at least one target dataset that best matches a collection of data elements from the source dataset; and (ii) computing at least one distance metric between the at least one target collection and the source collection such that a user can select the at least one target collection given the at least one computed distance metric. Independent claim 12

defines a similar apparatus-based invention, while independent claim 23 defines a similar article of manufacture-based invention. Independent claims 24 and 26 recite other embodiments of such automated navigation techniques.

Again as first set out in Applicant's previous response, such aspects of the present invention provide many advantages. For example, as stated at page 9, line 24, through page 10, line 6, of the present specification:

[T]he present invention provides automation for selecting datasets relevant to analysis tasks. Such automation is crucial to improving the productivity of decision support in systems management applications. The automation enabled by the invention provides value in many ways. For example, the invention makes the novice analyst more expert by providing a list of target datasets and collection descriptors that are closest to an element collection at hand (i.e., the source element collection). As a result, the novice focuses on the datasets that are most likely to be of interest in the analysis task. By way of further example, the invention makes expert analysis more productive. This is achieved by providing the target collection descriptor for each target dataset thereby enabling the construction of a system in which analysts need only click on a target dataset (or collection descriptor) in order to navigate to its associated element collection.

Repeating the technical highlights as first set out in Applicant's previous response, Morgenstern discloses, as explained at column 2, line 60, through column 3, line 6, a technique for integrating heterogeneous data with specifications for transforming source data into a common intermediate representation of the data, and transforming the intermediate representation of the data into a specialized target representation using the specifications. An information bridge is then created through a process of program generation and the source data is processed through the information bridge to provide target data wherein the target data is in a non-relational form with respect to the source data. Morgenstern goes on to explain that the purpose for proposing the technique is to address the problem of databases, used for design and engineering, employing a variety of different data models, interface languages, naming conventions, data semantics, schemas, and data representations. That is, the Morgenstern technique attempts to address a fundamental problem associated with concurrent engineering, i.e., sharing heterogeneous information from a variety of design resources.

On the other hand, Lawrence discloses an architecture for a corob-based computing system. As explained at column 3, lines 51-61, a “corob” is a simple construct that supports a new paradigm for computation that has computational strengths in “correlithms.” Correlithms are correlation-based algorithms, or analogy-based computations, considered to be related to the domain of living information processing systems, i.e., animal intelligence. Further, as explained at column 11, lines 31-33, the corob (or correlithm object) is the primary token of data representation and manipulation in a corob-based computing system. In effect, a corob-based computing system is a computing system that attempts to emulate the computational abilities of a living organism.

Lawrence goes on to disclose, at column 13, line 1, through column 14, line 38, that in a corob-based computing system, the quantity that must be measured is the distance between two corobs. In particular, a distance metric which may be used is the “Cartesian distance” metric, which is defined as the square root of the sum of the squares of the differences in each dimension between the two corobs, with suitable extensions added to deal with the fractional nature of the dimensions of corob generalized sub-spaces.

First, Applicant asserts that no motivation or suggestion exists to combine Morgenstern and Lawrence. For at least this reason, a prima facie case of obviousness has not been established. As is evident from the above summaries of the cited references, the two references perform different techniques, generating different results, in order to attempt to achieve different purposes. Morgenstern discloses a technique for integrating heterogeneous data so that it may be shared among a variety of design resources in order to foster a concurrent design engineering environment. It does this by using high level specifications of the heterogeneous data sources (e.g., design resources) being integrated in order to drive application generators which create the necessary transformations, programs for data access, and software interfaces. The result is the generation of a specific information mediator or information bridge for use between the disparate design resources. Lawrence, on the other hand, discloses a technique for performing computations which attempt to emulate the computational abilities of a living organism by computing distance metrics between similarly structured data constructs called corobs.

Applicant fails to see the motivation or suggestion to combine an engineering design tool integration system (Morgenstern) with a system that attempts to emulate the computational abilities of a living organism (Lawrence). They are two completely unrelated systems. As a result, Applicant strongly believes that one ordinarily skilled in the art would not look to an engineering design tool integration system to find inspiration to improve a system that attempts to emulate the computational abilities of a living organism, or vice versa.

The rationale offered in the outstanding Office Action for combining the references is conclusory since, as will be explained below, it is not clear how the use of a distance metric in Lawrence would serve to improve the engineering design tool integration system of Morgenstern.

Second, Applicant asserts that there is no reasonable expectation of success in achieving the present invention through a combination of Morgenstern and Lawrence. For at least this reason, a prima facie case of obviousness has not been established. As mentioned above, despite the assertion in the outstanding Office Action, Applicant does not believe that Morgenstern and Lawrence are combinable since it is not clear why or how one would combine them. However, even if combined, for the sake of argument, they would not achieve a technique for automatically navigating between data with dissimilar structures including a source dataset containing one or more data elements and at least one target dataset containing one or more data elements, as the claimed invention provides.

Lastly, Applicant asserts that the combination of Morgenstern and Lawrence fails to teach or suggest all of the claim limitations of independent claims 1, 12, 23, 24 and 26. For at least this reason, a prima facie case of obviousness has not been established. Again, assuming for the sake of argument that Morgenstern and Lawrence could be properly combined, which for at least the reasons above it is believed that they can not be properly combined, the combination fails to teach or suggest all claim elements in independent claims 1, 12, 23, 24 and 26. The inventive steps (or operations) comprise determining at least one collection of data elements from at least one target dataset which best matches a collection of data elements from a source dataset; and then computing at least one distance metric

between the target collection and the source collection such that the user can select the target collection.

First, despite the contention in the outstanding Office Action, Morgenstern (among other deficiencies) does not determine a target collection which best matches a source collection from at least one target dataset, as in the claimed invention, rather it integrates heterogeneous design resources.

Second, in Lawrence's living organism-emulating computational system, distance metrics are computed between two corobs. The claimed invention provides for automated navigation between data with dissimilar structures, as expressly recited in the claims, for example, wherein distance metrics are computed between the target collections and the source collection after the target collections. Corobs are not dissimilar data structures. Therefore, any distance metric computed in Lawrence is not a distance metric computed between dissimilar structures.

Applicant does not claim to have invented the concept of distance metrics. However, Applicant does claim the concept of automated navigation between data with dissimilar structures which includes computing at least one distance metric between the at least one target collection and the source collection such that a user can select the at least one target collection given the at least one computed distance metric, as recited in the subject independent claims.

For a clear example of what type of data problem that the invention may provide a solution for with respect to dissimilar data structures, see the example provided in the context of QoS (quality of service) management at page 3, line 1, to page 4, line 27, of the present specification. Whether or not the corob of Lawrence, as explained at column 17, can be a "vector of elements" which can be individual members of various kinds, each corob still has a similar dimension-based structure, as set out in Lawrence.

Thus, there are significant differences between the claimed invention and the suggested combination of Morgenstern and Lawrence.

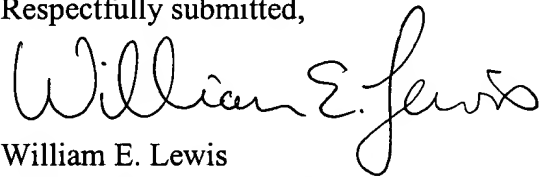
It is further respectfully asserted that Anwar fails to remedy the deficiencies described above with respect to Morgenstern and Lawrence.

For at least the reasons given above, Applicant respectfully requests withdrawal of the §103(a) rejections of independent claims 1, 12, 23, 24 and 26. Further, not only due to their respective dependence on such independent claims but also because such claims recite patentable subject matter in their own right, Applicant respectfully requests withdrawal of the §103(a) rejections of dependent claims 2-11, 13-22, 25 and 27.

For at least the foregoing reasons, claims 1-27 are believed to be patentable over the cited references. As such, the application is asserted to be in condition for allowance, and favorable action is respectfully solicited.

Date: November 30, 2001

Respectfully submitted,

A handwritten signature in black ink, reading "William E. Lewis". The signature is fluid and cursive, with the first name "William" and last name "Lewis" clearly legible.

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